

Oct 10

Work Order ID 136953

136953

Page 1

September 21, 2015 4:13:15 PM

Item ID: D2332-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Lid Prop Assembly 6.69"

Start Date: 9/21/2015 Start Qty: 6.00

6

Cust Item ID:

Required Date: 10/5/2015 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: SK Date: 20150921 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2332

Rev C1

100

0.00

100

Small Fab

Memo

0.02

Small Fab

1- Cut D2332-7 and D2332-5 to length as per dwg D2332.

2- Cut D2332-11 using 1/2" S.S tubing 7.735" long.

3- Deburr.

6 FF SEP 24 2015

110

0.00

110

Brake NC

Memo

0.00

Brake NC

Punch and form D2332-11 to length as per dwg D2332 using DT8012
(need 2 per ass'y)
6 FF SEP 24 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

Work Order ID 136953

September 21, 2015 4:13:15 PM

136953

Page 2

Item ID: D2332-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Lid Prop Assembly 6.69"
 Start Date: 9/21/2015 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 10/5/2015 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							SEP 24 2015

120

Small Fab

Memo

0.01

Small Fab

1- Drill hole in D2332-11 as per dwg D2332 using drill jig DT8459
(drill one per ass'y)

2- Ensure no foreign objects inside tube

3- Deburr

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.00

Quality Control

140

0.00

140

Large Fab

Memo

0.01

Large Fab

Weld D2332-11 and D2332-5 as per dwg (weld 1 per ass'y)
 *****ensure nothing is inside of tube before welding*****

S.S Rod batch: 123823

6

FF

SEP 24 2015

6

DAS
38
9-89

SEP 24 2015

6

16-02-03

JBL

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 136953

September 21, 2015 4:13:16 PM

136953

Page 3

Item ID: D2332-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Lid Prop Assembly 6.69"
 Start Date: 9/21/2015 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 10/5/2015 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC9- Inspect visual per QSI004- Fusion Welds	0.00							DAS
150						6	16-2-10		50
QC	Memo	0.00							9-89
Quality Control									
160	QC5- Inspect part completeness to step on W/O	0.00							DAS
160									38
QC	Memo	0.00							FEB 10 2016
Quality Control									
170		0.00							
170						6	FF		FEB 10 2016
Small Fab	Memo	0.01							
Small Fab	1- Tumble								
	2- Assemble as per dwg D2332								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Work Order ID 136953***136953***

Page 4

September 21, 2015 4:13:16 PM

Item ID: D2332-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Lid Prop Assembly 6.69"
Start Date: 9/21/2015 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 10/5/2015 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

180

QC5- Inspect part completeness to step on W/O

0.00

180

QC

Memo

0.00

Quality Control

FEB 10 2016

190

Identify as per dwg & Stock Location: **SL367**

0.00

190

Packaging

Memo

0.00

Packaging

FEB 10 2016

DAS
6
8-89

200

QC21- Final Inspection - Work Order Release

0.00

200

QC

Memo

0.01

Quality Control

FEB 16 2016

FEB 10 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Scrap ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Use-as-is ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

Picklist Print

September 21, 2015 4:13:21 PM

Page 1

Work Order ID: 136953

136953

Parent Item: D2332-041

D2332-041

Parent Item Name: Lid Prop Assembly 6.69"

Start Date: 9/21/2015

Required Date: 10/5/2015

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP: B02.08.12Re-format; Incorporated D2332-13/-11/-7/-5KJ/RF
IPP Rev:C 08-06-02 add comment DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M304R.250		Purchased	No			100	f	8.7299	0.1	0.631579			
M304R 250 304 SS Round bar .250													
** FF SEP 24 2015													

				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				MAT028				8.729894					
				122682				8.729894					
M304TR1.000W.049		Purchased	No			100	f	95.9599	0.43	2.715789			
M304TR1 000W 049 304 RD Tube 1.00 x .049W													
** FF SEP 24 2015													

				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				GA002				95.959947					
				125250				55.959947					
				m130551				40					
M304TR0.500W.035		Purchased	No			110	f	89.6400	1.25	7.894737			
M304TR0 500W 035 304 RD Tube .500 x .035W													
** FF SEP 24 2015													

				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				GA002				89.64					
				m128495				26.5					
				m132775				9					
				m132872				54.14					
7.8947													

Picklist Print

September 21, 2015 4:13:21 PM

Page 2

Work Order ID: 136953

136953

Parent Item: D2332-041

D2332-041

Parent Item Name: Lid Prop Assembly 6.69"

Start Date: 9/21/2015

Required Date: 10/5/2015

Start Qty: 6.00

Required Qty: 6.00

AN4-4A

Purchased

No

170

Each

318.0000

1

6

AN4-4A

FF

FEB 10 2016

BOLT

Location

Loc Qty

Loc Code

FP001

20

m125709

20

ST325A

298

m129390

298

MS21042L4

Purchased

No

170

Each

1,712.000

1

6

MS21042L 4

FF

FEB 10 2016

Locknut

Location

Loc Qty

Loc Code

FP001

2

m124231

2

GA

112

m127813

112

ST260a

170

m130799

56

m131803

6

m132262

108

ST305

1428

m128300

8

m130388

7

m130922

97

m131618

12

m132123

56

m132382

1248

Picklist Print

September 21, 2015 4:13:21 PM

Page 3

Work Order ID: 136953

136953

Parent Item: D2332-041

D2332-041

Parent Item Name: Lid Prop Assembly 6.69"

Start Date: 9/21/2015

Required Date: 10/5/2015

Start Qty: 6.00

Required Qty: 6.00

NAS1149D0416J

Purchased

No

170

Each

4,597.000

3

18

NAS1149D0416.I

FF

FEB 10 2016

WASHER

Location

Loc Qty

Loc Code

GA

347

m131511

347

ST270

4250

m131511

4250

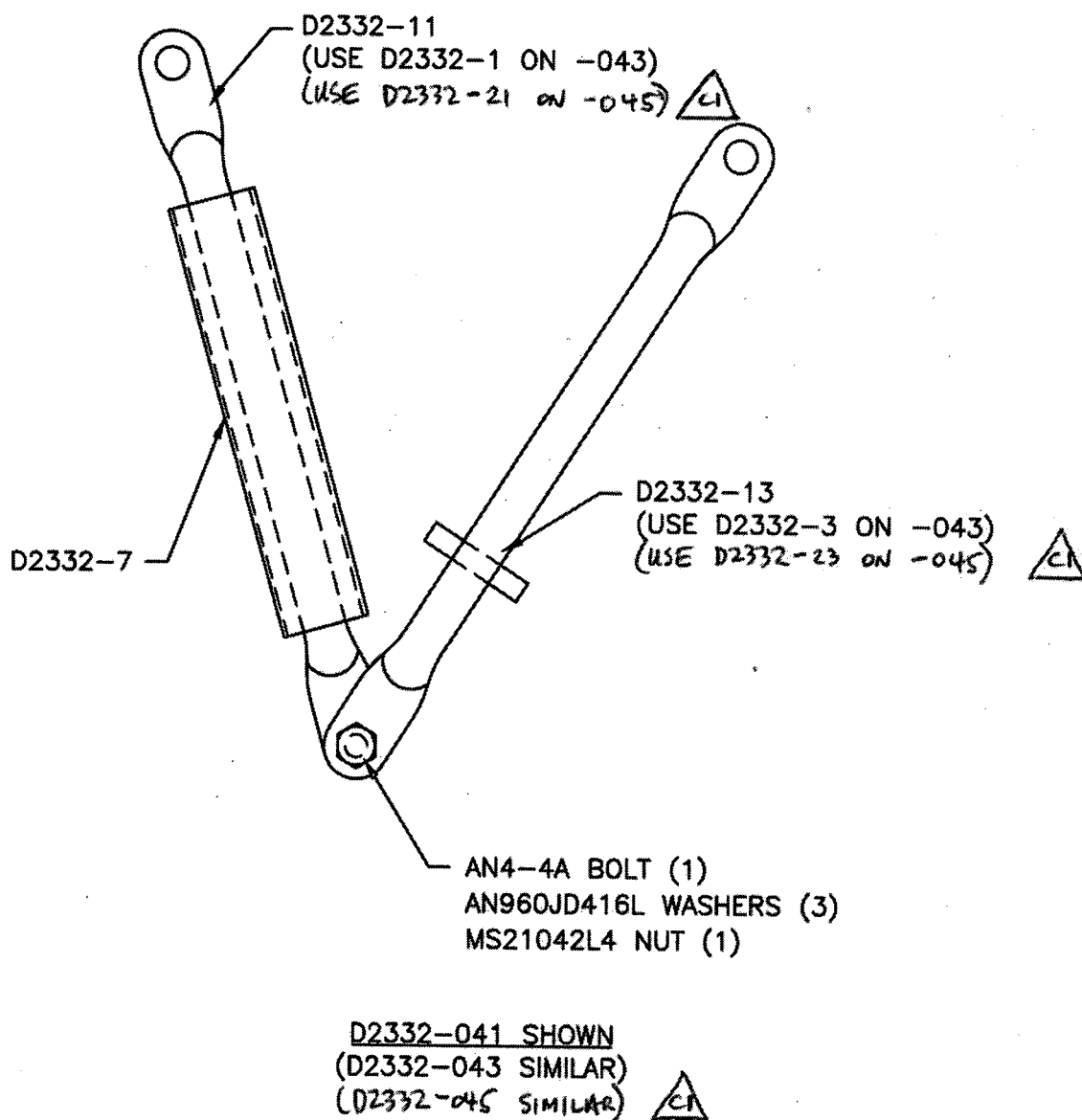
18



12015002, 136953 SH

DESIGN #	DRAWN BY #	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2332	REV. C SHEET 1 OF 2
DATE 03.07.03		TITLE LOD PROP ASSEMBLY	SCALE NTS
A	94.12.16	NEW ISSUE	
B	97.09.30	CHANGE 416 WASHERS TO 416L	
C	03.07.03	MAKE -041 PROP 6.69" LONG (STD) MAKE -043 PROP 8.00" LONG (OPT.)	
CI	# 03.08.06	ADD -045 PROP (7.25" LONG)	

RELEASED
03.07.03

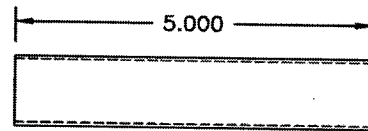


Copyright © 1994 by DART AEROSPACE LTD

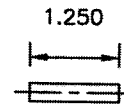
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



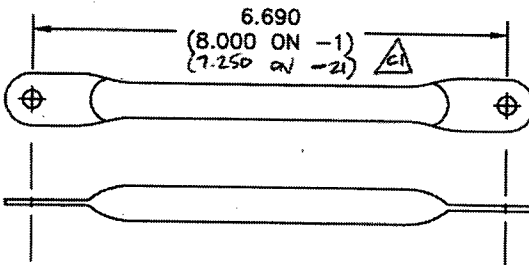
DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	DRAWING NO.	REV. C
03.07.03	D2332	SHEET 2 OF 2
	TITLE	SCALE
	LID PROP ASSEMBLY	1:2
	MAKE - 041 PROP 6.69" LONG (STD)	
	MAKE - 043 PROP 8.00" LONG (LWT)	
	ADD - 045 ROD 7.25" LONG	



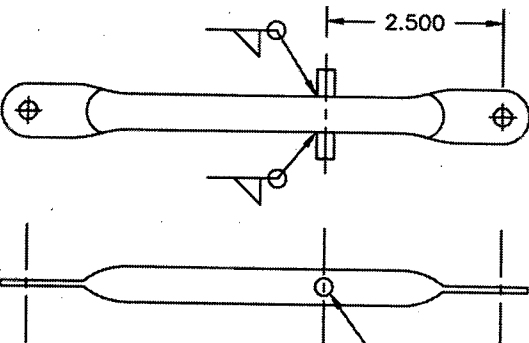
D2332-7 LOCKING COLLAR



D2332-5 STOP PIN



D2332-11 PROP
(D2332-1 SIMILAR)



DRILL 1/4 HOLE FOR D2332-5

D2332-13
M/F D2332-11 & D2332-5
(D2332-3 SIMILAR - M/F D2332-1 & D2332-5)
(D2332-23 SIMILAR - M/F D2332-21 & D2332-5)



NOTES:

- MATERIAL: 0.5 OD x 0.035 WALL SS TUBE (D2332-1/-11) M304TR0.500W.035
0.25 OD SS ROD 1.25 LONG (D2332-5) M303R0.250
1.0 OD x 0.049 WALL SS TUBE (D2332-7) M304TR1.000W.049
- TUBE ENDS ARE CENTER-CENTER FOR D2332-1/-3 & D2332-11/-13

RELEASED
03.07.04